RAILWAY ACCIDENTS AND THEIR PREVENTION.

FORTUNATUS'S 'WISH,' AND THE RESPONSES THERETO.

THE public demand has lately risen into one simultaneous outcry for the adoption of means for the effectual prevention of accidents by railway, which a civil engineer in the *Times* declares to be *perfectly possible*. The chief desiderata, besides those relating to security of the works, to which we have already elsewhere given repeated attention, are the adoption of means requisite for a direct communication between passengers and guards, and between guards and engine-drivers, and for the more effectual power of instantly checking the onward progress of trains towards otherwise inevitable destruction. New suggestions are ever being added to old for the attainment of these most desirable objects, which directors, however unwilling, will feel it no easy matter much longer to delay setting about in earnest; for the public or not to be longer obfuscated and baulked in their determination by the implied ignorance of practicable means, as lately expressed, on Colonel Sibthorpe's notice in the Commons of the increase of accidents, by Mr. Hudson, who "wished that those who complained of accidents would suggest some of those precautions which hitherto the directors of railway companies had failed to discover." None are so blind as those who do not wish to see, or have not the spur of self-interest in enabling them to see. The turning over of a few pages not only of THE BUILDER, but of any other periodical which pays the least regard to the welfare or safety of the public, above that fractional quantity paid to so humane an account by railway directors, would have at once forced on Mr. Hudson's obtuse vision, abundant evidence of the fact, that "those who complain of accidents" [and have they nothing to complain of?], *have already* suggested an abundant variety of those precautions which, however, it would cost directors some little expense at first to realize, and which they have accordingly "failed to discover." Is the mystery of the railway break so profound or obscure, that any one can fail to discover that even an ordinary break, with a breaksman at each, or even each second, carriage in a train, would secure a power of preventing accident by concussion not now possessed? Is the ingenuity of railway engineers and others interested—or rather *disinterested*—so sadly at fault that practicable and efficient (and neither troublesome nor expensive) means of establishing a direct communication between passengers, guards, and drivers can be neither suggested nor realized? Is there any one *else*, then, besides Mr. Hudson, possessed of cool *moral* courage sufficient to maintain the affirmative of these two simple questions? Why, both immediately before, as well as immediately after, he gave expression to his 'wish,' the newspaper press was literally deluged with additional suggestions, many of them by practical men; and strange it would be, certainly, if some of these suggestions were not as practical as their authors. An 'engine-driver,' in the *Times*, plunged still more deeply into causes, past, present, *and to come*, and their inevitable consequences if sufficient means of prevention be not timeously adopted. The suggestions of a 'civil engineer,' already noticed, as to guards, signals, &c., are eminently practical. A correspondent of our own [J. J., of Battersea], adds another to the numerous suggestions already published on the subject of the means of intercommunication between guards and driver, namely, that the usual 'danger flag,' with a bell attached, be affixed to a conspicuous or convenient part of the engine, on an iron staff or pole, about 3 feet in length, so jointed as to lie horizontally till in use, when it may be raised to the perpendicular by a line of catgut, running on friction wheels along the train, beneath the seats of the guards, and through each carriage, under proper protection, the separate portion of the line in each carriage being linked, one with another, by means of a screw, between the carriages; so that either a guard or a passenger may give the signal. Our correspondent is prepared to furnish details for the working of his plan, by means of which, also, one guard may alarm his fellow guards as well as the engine-driver, while the danger-flag would also attract the attention of the officers on the line. If it should be thought prudent to prevent the passengers from communicating directly with the engine-driver, of course the arrangement might be modified accordingly; while, at the same time, we should think, they might be entrusted with the power of at least alarming the guards, as these, one another. In raising the signal and giving the alarm, on the plan in question, the guard "has merely to press the gut into a notch made in the friction wheel, and turn it: it will then immediately wind up the gut from both ends, and, therefore, raise the signal, and alarm the guards by means of a bell fixed near to each of them, the revolution of the friction wheel to be made to strike the bell." A correspondent of the *Mining Journal*, again, suggests that a small electrical telegraph, at a trifling cost, be placed in each guard's *van* [which is always in the *rear*], and thence communicate with the engine-driver at the opposite extremity of the train; so that only the guards would have it in their power to stop the train, while other means of course might be adopted for the communication between passengers and guards. For that purpose, a correspondent of *Herapath* proposes that a small portfire should be placed in each carriage. A new invention also for the more speedily arresting the course of a train in cases of danger has been patented and lately exhibited by a Mr. Lee. It provides for two classes of danger. For unexpected concussion, a buffer projects from the carriage or engine, and any force coming in contact with it lets down a drag or break upon the rail, which immediately stops the carriage. Although, perhaps, this contrivance would not at once stop the whole train—though with a buffer to each carriage that might almost be accomplished—it would prevent the occurrence of what is most to be feared in cases of concussion—that is, the dreadful effects caused by the meeting of two opposite forces, the progressive and the arresting, by which the carriages in the centre of a train are frequently heaved up or completely crushed. In the other case, that of foreseen danger, the conductor of the train can, by turning a handle, almost immediately arrest its course. It was stated by the inventor, that on the Croydon Railway a train of 19 carriages, descending an incline at a velocity of 35 miles an hour, was, by breaks to one carriage only, brought to a dead stand within 55 yards. Breaks to one carriage in nine are considered to be the requisite average. Still more recently a Mr. Thomas Blanchard, in the *Times*, proposes the adoption of perhaps a still more feasible, or practical and economical, as well as powerful system of breaks. He suggests, that while every carriage is provided with a break, each break could be connected with that of the preceding carriage by an iron rod, and this union be continued throughout the whole line of carriages; so that one rod, connecting all together, might be fixed to the machinery of the locomotive in such a way, that when the engineer saw danger, and wished suddenly to stop the train, he could, by means of a lever, reverse the movement of the engine, and instantly cause it to act temporarily on a screw, which would tighten the connecting-rod of the breaks, so as to lock the wheels of every carriage, thereby offering immense resistance to the impetus already given. That the buffers of carriages should be all precisely on the same level, has been also repeatedly suggested for the prevention of that tendency which the lower has to throw up the carriage to which the higher is affixed; but even on that subject a new suggestion has been offered, namely, that the buffers in front be concave, while those in the rear be convex, or *vice versa*, so as to lock into each other, or tend to do so, even though not exactly on the same level. Then, too, for the more thorough protection of passengers, even in such an event as that of a mutual crush of carriages in a concussion; another correspondent of the *Mining Journal*, Mr. J. J. Grylls, of Llanelly, in pointing attention to the utter unsuitableness of the carriages used on railways for passenger traffic,—their flimsy construction, their hitchings and buffers, and, above all, their box-like and totally unprotected form, as altogether inadequate to the service required, describes a plan for their reformation. The form of each separate compartment or carriage, he suggests, should be round,—a hollow globe—instead of an oblong or a square. It should be a framework of "*angle iron*," such as is used in shipbuilding, &c., the ribs uniting or meeting at the centres which come in contact with the next carriages; and a strong cap, or plate of iron, should receive the ends of the curved angle-iron—the whole to be cross-stayed, and the iron galvanized. A doorway on each side could easily be arranged, without much detriment to the strength of the whole. The arrangement of seats *round* the inside would be pleasant and safe—*safe*, compared with the present edges of two boards ready to meet, in case of accident, just below the knees of the passengers; and the ventilation might be greatly improved. Place this kind of "*shield*" upon a strong iron frame, and allow the carriage wheels, which by this plan might be larger, and suit increased speed, to run altogether clear of the body of the carriage, and so avoid the imminent danger arising from wheels and axles *under* the carriage. A very suitable and simple buffer frame, he adds, might be made so as to be equally efficient in curves, which the present are not, and in straight lines. The advantages of such an arrangement and construction of carriage, he observes, are very numerous—some of which he proposes to point out, with drawings of the plan.——In short, Mr. Hudson's 'wish' has been as promptly and as superabundantly responded to as if the iron crown, or crown of brass, of this most fortunate speculator, had been Fortunatus's wishing cap itself.—— Meantime, however, Mr. Hudson and his directorial colleagues never "fail to discover" any thing in the form of even a mere shadow of coming events that may tend, or appear to tend "to endanger the security, and to depreciate the value" of railway property, or to "interfere with that freedom of action which is indispensable to the efficient management of railways;" and accordingly, H. M. Mr. H., and a host of his fellow "chairmen," were not slow in setting their faces, and their holographs, against the Government Railway Bill (or rather the Railway Government Bill), one form of which they had previously strangled, and another they were lately inviting, by circular, all interested to assist in effectually opposing,—which they did, in truth, to purpose.—But we were treating of what very plainly tends "to endanger the security, and to depreciate the value" of human life on railway property, and of course any allusion, either to railway directors, or to circulars issued by them, to their fellow-chairmen, inviting them, as "all interested," to assist effectually in this common cause of humanity, is somewhat irrelevant. We must return, therefore, to that cause for a moment, the importance of which will be our sufficient excuse, in order that we may briefly add from the *Times* the general suggestions of "one who has travelled much by railway," for the obviation of a variety of the dangers of railway travelling. And this we do designedly *ad nauseam*, and merely just to shew, by one proof more, without any special reference to its merits in comparison with others, that such suggestions as Fortunatus wishes for are, in fact, "as plentiful as blackberries," or as pearls from the mouth of that unhappy sister of Fortunatus, who delivered the article, like syllables in speech, by paragraphs at a time.——1. Buffers throughout a train ought to be of exactly the same height from the ground, so as to strike fairly, centre on centre, otherwise in a concussion the lower will throw the higher with its carriage upwards. 2. Every carriage ought to have a break. 3. Passengers might signal to the guards by help of a sufficiently powerful bell at hand in each carriage; and guards, in turn, to the driver by a few prearranged notes on the hugle, as of old. 4. No engine in the least degree unsteady ought to be allowed to run at all. 5. Absolute punctuality, both in starting and arrival, ought to be enforced. 6. No oscillating carriage or truck, any more than engine, ought to be allowed to run, and no truck should be placed before a carriage. Lastly, luggage-trains ought not to run on passenger lines at all—actively or passively they have caused many accidents.—— As to any thing like a saving of money by staving off the outlay of any little expense that may be necessary in the carrying out of effectual means for the prevention of accidents in the working of trains, exclusive of those arising from defective works, to which it is not the object of the present article more particularly to allude, we would earnestly call on railway directors to consider the result of one of the recent accidents, namely the concus-

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